

### Claims

1. - 20. (Canceled)

21. (New) A method of tracking an object in a vector image sequence with respect to regions of an image frame sequentially segmented by region growing, the method comprising:

providing an image frame comprising plural image points;

growing a first region in the image frame from a first image point by adding neighboring image points that satisfy a homogeneity criterion for the first region, wherein the homogeneity criterion constrains the difference between a maximum image point value and a minimum image point value in the first region;

when no more neighboring image points satisfy the homogeneity criterion for the first region, repeating the growing for other regions until each image point of the image frame is part of one of the regions, wherein the region growing occurs sequentially and without specifying seeds for all of the regions before the region growing begins; and

with respect to the regions of the image frame, tracking an object in a vector image sequence.

22. (New) A computer readable medium having instructions for performing the method of claim 21.

23. (New) A method of segmenting an image by sequential region growing, the method comprising:

providing an image comprising plural pixels, each pixel having one or more dimensions, each dimension having a value for the pixel;

growing a first region in the image from a first pixel by adding neighboring pixels that satisfy a homogeneity criterion for the first region, wherein the homogeneity criterion constrains the difference between a maximum value and a minimum value in the first region; and

when no more neighboring pixels satisfy the homogeneity criterion for the first region, repeating the growing for other regions until each of the plural pixels of the image is part of one of the regions, wherein the region growing occurs sequentially.

24. (New) The method of claim 23 wherein for each of the one or more dimensions the homogeneity criterion constrains the difference between a maximum value among the pixels of the first region and a minimum value among the pixels of the first region.

25. (New) A computer readable medium having instructions for performing the method of claim 23.